

A History of Santubong, an Island off the Coast of Sarawak.

BY HAROLD H. EVERETT AND JOHN HEWITT.

The island which forms the subject of this paper has for many years been familiar to Europeans resident in Sarawak, seeing that it affords to them the only seaside resort within easy reach of Kuching, the capital of Sarawak. As the new-comer approaches the country by steamer from Singapore, the Santubong mountain is one of the first landmarks to attract his attention : it presents an imposing forest clad mass rising almost straight out of the sea and its steep slopes reaching a height of 2700 ft.

The island on which this mountain is situated lies in the delta of the Sarawak river, its northern portion being washed by the China Sea. To the mere pleasure seeker the place has no attractions other than the sea and its shore with a narrow stretch of sand fringed with the picturesque casuarina trees, and dotted here and there with rocks and huge shell-covered boulders : but to an intelligent observer, Santubong has much additional interest. Perhaps the main feature of interest lies in the history of its inhabitants and the primary object of this paper is to bring together all the scattered facts concerning former peoples who have left no records of themselves excepting in such relics as broken utensils, tools and trinkets all of which can be picked up during a casual search on the site of the former village. We shall make mention of the fauna and flora of the island mainly from the point of view of geographical distribution and will incidentally give a brief note on the physical geography and geology of the island.

Concerning the word "Santubong" itself we can only say that by this name the mountain is known to all natives in this part of Sarawak. Amongst Sea Dayaks and Malays, "S'n-tu-bong" means a coffin : to Chinese the word "Sān Tū Bōng"

signifies apparently "the mountain visible a long way off," and there is said to be a mountain of this same name in North China.

On the island are now several villages, viz., on the West Coast, Santubong which is situated almost immediately below the south end of the mountain ridge, and Bankissam which lies southeast of Santubong, the two being only separated by a stream known as the Santubong River: on the east coast we have the fishing village of Buntal which on its land side abuts on a mangrove swamp.

There seems to be good reasons for believing that Santubong has had a checkered history so far as its inhabitants are concerned. In pre-European times this neighbourhood was the rendezvous of desperate pirates who on more than one occasion must have sacked the village, at the same time destroying everything which could not be conveniently carried off; so that quite possibly we are indebted to these lawless people for the scattering of the interesting relics we describe later on. To this cause may perhaps be assigned the total disappearance of those large colonies of people whose ruined workmanship alone is known to us. The present inhabitants are descended from immigrants who several generations ago left their homes in various parts of Sarawak to found the villages above mentioned. To Santubong village came many Milanos from Matu and many Sea Dayaks from Sibuyau: to Bankissam came some Kuching Malays and one small village is peopled by Malays from the Kalaka River. When these people became sufficiently numerous, the Chinese shopkeepers also appeared.

The headman who, as representative of the Sarawak Government, administers justice and commands order is a certain Hadji, a Malay of rank claiming relationship to the royal houses of several countries including Bruni and Johore. His sense of order however does not appear to be very highly developed as his villages are always in an untidy and unsanitary condition.

The houses of the village are like all Malay houses raised on piles and built of a wooden framework with roof and sides

of Nipa leaf thatch: they have no definite arrangement in the village which has not even a proper main road.

Formerly the only industry of the island was fishing and boat building, but of late the Sarawak Cutch Company has supplied work to the bulk of the inhabitants of Santubong and Bankissam.

The customs of these natives are a mixture of Malay and Milano and though the language spoken is mainly Malay yet there are a few people who can only speak Milano.

Much might be written about their superstitions, but we content ourselves in this paper with only a few examples which we hope will suffice to throw some light on the psychology of an ignorant oriental people whose only education has been a veneer of Islamism.

An interesting Milano custom held at the commencement of the fishing season—when the fine monsoon appears—is known as the Nyemah. A fleet of fishing boats decorated with flags and manned by boys and girls carrying tomtoms passes to all points in the bay where they are proposing to fish and there the leader of the fleet throws out to the spirits in the sea offerings of coloured rice invoking the spirits in an obsolete language the while.

At each promontory of the coast they fix up an 'Anchak' a festooned trophy gay with streamers, fashioned from the young leaves of the Nipah palm plaited according to custom: in this are receptacles for rice of many colours, eggs, bits of fish, tobacco and even opium—a little of everything edible in act.

Afterwards the ceremony winds up in a free fight all round, the people pelting each other with cakes and sweetmeats, pedada apples and Nipah fruits, and at this time former enemies take the opportunity of paying off old scores. The exact significance of the fight we cannot state.

It is characteristic of Milanos to ascribe all the ills of mankind to the direct action of evil spirits, and their mode of healing the sick is by appeasing the offending spirit. If a person has a headache it simply means that an angry spirit has hit him on the head and the treatment must be the

pacification of the spirit. However the religious ceremonies connected with the healing of sick people in Santubong are not really typical of those in vogue amongst Milanos in their own country, and we think it best to give no details concerning them. We may mention however that they hold the "Bayoh" ceremony (cf. Ling Roth) and occasionally they make images of the antus though the material (pith of the sago palm) from which such images are ordinarily made is scarce in this neighbourhood.

All these people, Milanos as well as Malays, have embraced Islamism and hence are not so rabid in their notions of demonology as are the unconverted Milanos of Matu or Mukah; however the new religion has by no means entirely or even largely displaced the old.

As Mohammedans, the Santubong people prefer to be called Malays and are wont to conceal their Milano origin; and indeed it generally happens that when a native in Sarawak becomes a Mohammedan he immediately feels justified in calling himself a Malay—the Malays claiming to be the highest type of native in Borneo. Thus it comes that Sarawak Malays are a very complicated mixture of entirely different types of people and in Sarawak there is no such thing as a Malay race.

A very odd superstition is that known as "Pajong." It is the common notion that there is in the body a spirit (Pajong) or quality which may be exhaled and do harm quite unintentionally and that if one passes immediately behind a person who is in heavy perspiration the former person will soon have stomach-ache, and this indeed may have some foundation in fact: however to obtain relief it is necessary to implore the perspiring person to restrain his issuing spirit. It is quite the usual thing for a Milano when hot and perspiring to lean close to a wall lest any friend passing behind him should suffer the "Pajong."

An equally funny notion—this of Malayan origin—is the story of the "Polong." Certain unscrupulous persons in some way or other become masters of an evil spirit which punishes other people according to the will of its master. This familiar spirit embodies himself in a grasshopper which

flies about in search of its victims. It is considered to be very dangerous and can kill people outright. The spirit is supposed to feed by sucking blood from the little finger of his master. If a man who possesses a "polong" dies, whilst his spirit is out on evil bent, the 'polong' becomes a masterless vagabond who will hurt any or all out of pure malice: for this reason everyone dreads the Kundin grasshopper. If one finds a grasshopper with a grain of rice in his stomach most assuredly he is a "Polong." (Cf. Skeats' 'Malay Magic,' p. 330).

We may mention still another superstitious practice belonging to the Malays and yet reminding us of mediaeval times in Europe—viz. the "tuju" or "pantak." If a person has an enemy on whom he would like to inflict bodily pain without running any personal risk he has resort to methods of sorcery: he would make for example a wax image into which he would stick pins just in the places where he desired his unsuspecting enemy to be smitten. Rather an amusing instance of this idea occurred only a few days ago. A few Sea Dayaks had been photographed and one of them went home bragging on that account, but his boast was soon turned to dismay for his mother assured him that he had thus put himself under the power of the artist since the latter had but to prick the eye of the picture and his victim would be blinded. The result was that the unhappy youth returned immediately to the photographer and anxiously begged for the plate.

The people of Santubong are ardent followers of the universal custom of stone worship. There is on the seashore not far from the Mission bungalow a large sandstone boulder which in profile has a fanciful resemblance to the open mouth of a huge monster: it is called the "batu boiak" (the crocodile stone.) On this stone it is customary to place offerings to the spirits and here the seeker after wealth or happiness makes his prayers. Even the foreign Chinaman who would be lucky in his gambling bribes the spirits with offerings of food placed on the 'Batu boiak.'

It has been known for many years that in Santubong one can at any time find fragments of ancient pottery, obsolete

beads and gold ornaments: the latter have by this time been thoroughly searched for by natives who have devoted their whole time to the work. It is believed too that Rajah Sir James Brooke made a collection of this treasure which unfortunately entirely disappeared when the Astana was sacked by the Chinese in 1857.

Concerning the former possessors of these interesting remains we know absolutely nothing, nor is there any local tradition on the subject; in enumerating the various objects found, it will be seen that the case is rather complex and we can offer nothing more than provisional hypotheses to explain the tangled evidence.

The area in which these fragmentary relics are to be found is a very definite one stretching for a distance of about $1\frac{1}{2}$ miles along the shore of the river, being limited on the west by the Santubong River: landwards it extends back for some fifty yards. It is easily distinguished from its surroundings by the characteristic black iron slag. A great part of it is now uninhabited.

The following is a general list of relics found within recent years at Santubong: gold ornaments, beads of various kinds, bracelets, broken pottery and crucibles, Chinese coins, iron slag, one small Hindu image of baked clay, and several carved stones.

We must mention that these various remains, all mixed confusedly together, belong to very varied peoples and dates, some being undoubtedly modern: this is clearly shewn in the case of the pottery and the beads.

GOLD ORNAMENTS.

These are mostly beads of very fine workmanship. In addition to these are fragmentary remains of what appear to have been ear and nose ornaments. A solitary stud rescued intact much resembles the nose studs worn by natives of India. Several large beads found here have the characteristic shape of an octahedron pulled out into a spindle. Such beads may perhaps have formed part of the tassel hanging from the ear

ornament of an Indian woman, or again it may have formed part of the fringe of a Chinese lady's handkerchief.

On the whole, we think these gold relics point to Indian workmanship but the material is not sufficient to justify any positive statement.

Fairly large quantities of gold treasure of this type has been found on the left hand branch of the Sarawak River below Pengkalan ampat and a number of fancy beads have been taken at Bidi. It is quite certain that gold has been worked in Sarawak by Chinese for many centuries, but the Pengkalan ampat and Santubong relics certainly do not possess a typically Chinese facies. The Santubong ornaments may have been made from gold taken on the island itself as in the north not far from Tanjong Sipang workable gold has been found.

It is rather remarkable that silver treasure is represented only by one or two bangles and beads and a very few silver rings such as are worn on the toes by Indian women. The great scarcity of silver work rather suggests that jewellery in general was not imported to Santubong and that therefore all trinkets such as are found—the gold articles above mentioned—are locally made.

BEADS.

There is a great variety in the beads found at Santubong. On the whole they are of a plain type and specimens of the handsome many coloured beads such as are treasured so highly by other Bornean natives (Kayans, Kenyahs and Milanos) have only occasionally been taken here. A fair number of beads are made of natural stone (Cornelian Agate, Red Jasper and Quartz) which the makers may have procured from the conglomerate on the left hand branch of the Sarawak River. Such beads are spherical or elongated and faceted. A common shape is that which we described in our account of the gold beads as an octahedron pulled out into a spindle. A bead of such a shape is known to Sea Dayaks as Pelaga. Beads in all stages of making are here found, some roughly shaped, some not bored, and others only half bored, and one or two

have been drilled so badly from two opposite ends that the holes have crossed without coinciding.

Another type of bead also made on the spot is produced from the iron slag which we mention later. The bead appears to have been formed by twisting the pasty slag round a wire.

All the other kinds of beads may be of foreign origin but many are so crude that we think this improbable. Glass beads of various colours, yellow, red, and blue are numerous. Many of these are asymmetrical and peaked at one or both ends as if the plastic glass has been twisted spirally round a wire. The other glass beads are of better workmanship, a common shape being that of a biconvex disc with finely bevelled edges.

Another type, perhaps of European origin is cylindrical and presumably was made by cutting up glass tubing. Finally there are to be found here many small beads made of burnt clay coloured red by iron. Of this type we have seen several interesting specimens shewing the method of production. The clay was rubbed round a wire to give a length of tubing: this was pinched at short intervals producing a slender moniliform tube which was baked as such. Afterwards the beads were made by breaking it at the constrictions.

It seems very probable then that Santubong was once the scene of a bead making industry, but we are in complete ignorance respecting the makers. Natives of Sarawak have now no knowledge of such an art and beads of the type in question are not affected by Chinese. The red and yellow beads are often worn by poorer Milanos on their clothing and the few large and handsome beads are of the same type as is treasured by the Milanos: yet these were almost certainly never made by Milanos.

It is well known that the better class beads of external origin have been much used for centuries and even up to the present time, as an object of barter amongst natives: modern beads thus used come mainly from Germany but who made the antique beads and who introduced them to Borneo no one knows.

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We can state however that some of the antique beads now found in Borneo were made in Venice, centuries ago: such old Venetian beads have indeed been found at Bako, a fishing village quite near to Santubong.

BRACELETS.

A few fragments of simple bracelets made of blue glass have been found at Santubong. The same kind of ornament has also been found in the Baram district and at Sibü: in the caves of Upper Sarawak, Mr. A. Hart Everett found 'beads and armlets of a very hard blue glass, excellent pottery, pieces of iron, and manufactured gold.' They were most likely introduced to Borneo by traders.

POTTERY.

Broken pieces of pottery are to be obtained here in large quantities: but it is rather curious that only very few whole pieces have been found. The commonest kind belongs to a type which has for many generations been treasured up by the Milanos of Sarawak and whose origin is very uncertain.

Our Santubong pieces belonged mainly to plates and shallow basins. For the most part this pottery is of the esteemed crackle type and is characterised by a specially thick glaze which is usually some shade of green. A decoration occasionally seen on these plates is that of a small fish placed under the glaze: in one specimen of similar make a peony flower occupied the centre of the plate. This type of pottery is probably of Chinese origin. A less frequent kind of earthenware is of red terra cotta of very good quality: a jar of this material is decorated with the three clawed foot of what may have been a dragon or a phoenix.

Other remains of pottery which is probably Chinese or Siamese are those of jars of various sizes, the largest reaching a height of three or four feet. Such jars decorated with dragons in relief and of a thick brown glaze are in use to-day amongst the Sea Dayaks who prize them highly.

In addition to the above are cooking pots, teapots, and gin receptacles exactly like those of present day Chinese, and crockery of this particular type is suggestive of a colony of Chinamen rather than of Milanos.

An entirely different kind of pottery is the crude earthenware made of burnt clay: this is decorated with a pattern which was beaten on the plastic clay by means of an incised strip of wood. Such pottery was formerly made by Malays, and certain Sea Dayaks even now make their cooking pots in this way. These pots would be made on the island, we suppose.

An interesting find is that of crucible remains in fairly large quantities. The crucibles—apparently about 7 ins. high—were excellently made and the clay used was of superior quality: it is obvious too, that the material was turned on a potter's wheel. We think it very likely that these crucibles were made in the village, and that they made use of a white siliceous clay which is still to be found at Bankissam: this clay has been analysed by Mr. C. J. Brooks who reports that it is very similar in composition to the material of the crucibles and to that of one of the better kinds of pottery.

A remarkable fact about these abundant crucible remains is that not one of them has been in use, as if the Santubong crucibles were made entirely for export. The recent find of a single specimen of crucible which has been in use and which still contains a fusible slag does not appreciably alter the case for this crucible is made of an entirely different material, being of coarse grain whereas all the other crucibles are characterised by a special fineness of structure. The contents of the used crucible are iron slag. In the total absence of used crucibles belonging to the better class, we are unwilling to offer any suggestion respecting their use.

We can sum up the evidence of the pottery by stating that there lived in Santubong some people who possessed quantities of good Chinese (or Siamese) pottery, and that the same or other people made first class crucibles and simple burnt clay cooking pots.

CHINESE COINS.

We have quite a collection of cash from the area in question. The commonest coin found is a Thai Ping cent piece cast in the period A. D. 976-984. Besides this, there are cash belonging to the periods A. D. 618-905, A. D. 998-1004, A. D. 1038-1040, A. D. 1064-1068, A. D. 1078, A. D. 1101, A. D. 1662-1723, A. D. 1736-1796, A. D. 1736-1791, A. D. 1796-1821, A. D. 1821-1851.

In considering this list of such varied dates it should be remembered that similar coins of all ages are still in currency amongst Chinese although the coins of a reigning Emperor or dynasty would predominate in China. Making due allowance for this, it would still seem a possibility that the coins belonged to at least two distinct colonies of Chinamen living in Santubong at different periods, *viz.*, an early colony financed by Thai Ping coins with others up to the year A. D. 1101, and a much more recent colony who used mainly eighteenth century coins.

IRON SLAG.

The visitor to Santubong cannot fail to remark on the large quantities of black iron slag found on the surface of the ground over a large area, and history has nothing whatever to relate of an iron manufacture here. It exists in large masses as well as in small bits, and apparently is intermixed with the surface soil fairly uniformly. This iron slag is rich in iron as if it were the product of unskilled workers. There are no remains of furnaces nor of ironware which was presumably made here: the latter fact is what might have been anticipated as in this country earth-buried iron disappears rapidly.

In our account of the crucibles we mentioned that there have been found a solitary crucible specimen containing slag scoria fused to its sides: this may suggest for the slag an origin from the crucibles but it seems scarcely probable when we consider the large size of the masses of slag which rather points to the use of small primitive furnaces. Strange to say there is now no iron ore to be obtained on the island: the

nearest locality for this raw material is in the neighbourhood of Lundu 30 miles away.

We are indebted to Mr. C. J. Brooks for the analysis of this slag, as follows.

Silica	22.4 %
Ferrous oxide	65.5 %
Alumina	7.6 %
Lime	2.3 %
Oxygen and Carbon	2.2 %

Mr. Brooks therefore considers that the process of extraction was rather crude and that limestone was not used therein.

At the present day the extraction of iron from its ores is quite unknown to Malays or Dayaks and is only to be found amongst certain Kayans who live hundreds of miles away.

THE HINDU IMAGE.

A single specimen of some female Hindu deity made of burnt clay comes from the area in question. The hands are crossed over the breast: it is $2\frac{1}{2}$ ins. long and has lost its head.

Other relics of similar origin are mentioned by St. John as occurring not many miles away amongst the Land Dayaks: such are a Hindu stone bull and a 'representation of the female principle so common to Hindu temples.'

It is supposed that an object of religious import to the Bukar Land Dayaks of the Serin village and guarded most jealously by them will eventually prove to be the same kind of image: is certainly is true that the Land Dayaks shew clear evidence of a Hindu influence in their customs.

CARVED STONES.

Situated at some distance from any human habitation on the bank of a small stream known as the Sungei Jaong there is a sandstone rock on which has been carved a human figure lying prone on the rock with hands and arms stretched out. The figure is almost life size and much time and patience must

have been devoted to the work. The rock itself has natural depressions and eminences so that the carving very likely followed some previous contours on the rock. There is no tradition whatever concerning this stone which is well known to the present inhabitants of Santubong: it is however certain that it was not the work of the Malays or Dayaks. We believe that it is of Indian workmanship and as a traveller's tale we have it that such figures are also to be found not far from Benares in India.

Another stone to which no use nor origin can be assigned with certainty is a large block of sandstone in which a shallow rectangular cavity has been cut: it is too large to be lifted by one man. This stone lies near the house of the Cutch Company.

Of another crudely carved stone found at an elevation of 300 feet on the mountain a figure is given. It is about 4 feet high and 1 foot broad: its history is quite unknown.

Lastly there is near the Government bungalow a cylindrical block of sandstone about 6 ft. long which with its well smoothed surface and carefully rounded ends suggests human workmanship.

If we turn in other directions for the solution of the questions raised by the discovery of the above mentioned relics we meet with no explanation whatever. Of writings or traditions there is nothing save one which relates to the history of the Malay royal family and which we now summarise. It tells of the wanderings of a Malayan Aeneas, by name Datu Merapati, who for a time made Santubong his head quarters. The same story also makes mention of an attack on the village by Burmese invaders, a tale of considerable local interest as we shall see later on.

THE STORY OF DATU MERAPATI.

Many years ago there came down from Heaven an illustrious person called Rajah Paribata Sri. Deciding to stay on earth he took to himself a wife and became the father of three children—by name Radin Depati our hero, Radin Urei Sri and

Radin Gosti. Prince Radin Depati commences a series of perilous adventures by making war on the Rajah Jemarulan and being cursed by heaven suffers defeat: so accompanied by Urei Sri and Gosti he seeks refuge in Johore. Here they receive a hearty welcome from the Sultan who treats them as his own sons.

As might have been anticipated our hero fell in love with the Sultan's daughter and his suit meeting with a favourable response Radin Depati took to wife Dayang Suri. There were great rejoicings at the marriage and all Johore made it the occasion of a special holiday. But alas! for some reason or other the gods were offended and whilst the bridal party were making merry in their ship, a violent storm arose which carried them far from their home. The vessel with its seasick and famished crew was borne in the wind to Siku-danah on the south west coast of Sarawak where the unfortunate party landed.

Here they were welcomed and for some time they were content to remain with the good people of Siku-danah. For some unexplained reason Depati considers it wise to conceal his identity and he now calls himself Sa Merapati. His brother Radin Urei Sri receives in marriage the daughter of the Rajah of Siku-danah. After a while, the whole party decide to return to Johore and again they venture on the open sea: the winds take their vessel first to the island of Malang biru and then to Puloh Malakutan famed for its coral and nibong palms. Thence they are carried to Sambas where they remain for more than a month.

At this time Sambas was ruled by a young queen who is smitten with love for Urei Sri and as a result the latter becomes king of Sambas. In this country he remains whilst the rest of the party sets sail again, and eventually reaches Tanjong Datu. Here they remain for some time, Radin Dapati taking the title of Datu Merapati, and his wife Datu Permaisuri. From our hero in fact this place takes its name of Datu and to this day his grave is to be found at this well known cape. Later on, Datu Merapati becomes Rajah of Tanjong Datu. At this time the country was very much infested by crocodiles who were

so numerous and so voracious that the people were afraid to leave their homes. At last the men decided to wage continual war on the crocodiles until they were entirely driven away, and this though causing the death of many men, they actually accomplished. One large creature nine fathoms in length they beheaded, and his head they took to a place on the island now called Santubong where it may be seen to the present day as the Batu boiak. From that time the village of Santubong was known to Malays as Negri batu boiak. Here Datu Permaisuri gives birth to a dragon with golden scales: this prodigy swims out to sea. Also here she presents Datu Merapati with a son, Chipang Merapati and a daughter Dayong Sri bulan. One day Merapati and Chipang set out from their home on a trip into the interior with the object of collecting tribute. Whilst they are away the village is attacked by a crew of savage people who came from Pegu, and fearing for their lives, all the villagers of the Batu boiak seek refuge in the jungle. Permaisuri and Sri bulan are taken as prisoners to the vessel of the victors and in their shame they seriously consider suicide. But the elder lady recovering her spirits resorts to a stratagem and at last succeeds in killing the Pegu captain, at the same time thoroughly terrifying the rest of the crew.

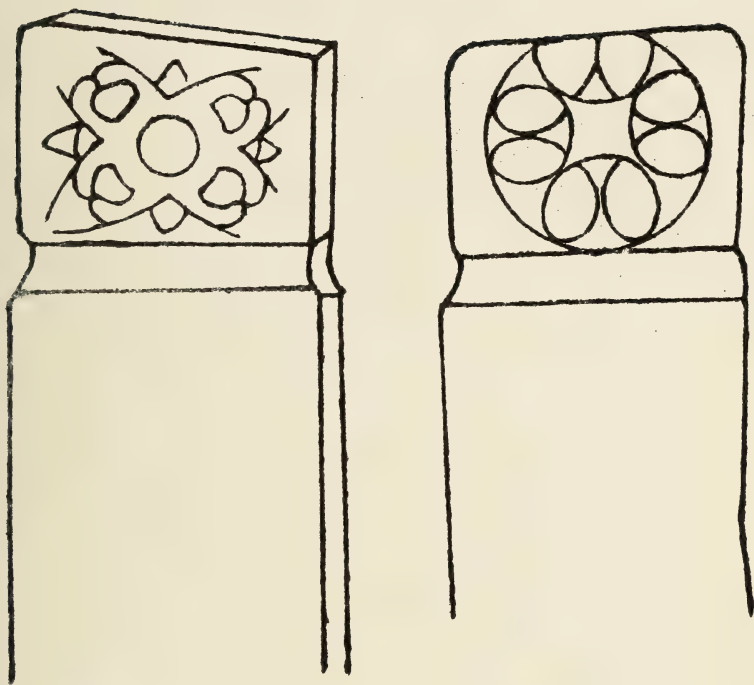
It is told that Permaisuri after killing the captain gouged out his eyes and that these having been preserved are still in the possession of one of the Malays of rank, in Sarawak: be this as it may the words 'Matu Pegu' (Pegu's eyes) are still in use amongst the people of Santubong. After this, the vessel is carried by wind and tide up the Samarahan river and on reaching land the crew immediately run off into the jungle. To this day the descendants of the Burmese invaders are still to be found up the Samarahan: for such are the bearded Land Dyaks of Bukar who, be it noted, have amongst them no men of rank, no tumunggongs, no mentri and no datus. The two ladies did not however disembark and they were taken after many days to Brunei where they lived in the house of a low born but kind-hearted fisherman for some months.

In the meantime Merapati had gone far up the Sadong river, and had even married a Dayak lady. As a result of

this union, the Upper Sadong river can shew in its many tumunggongs some men of high birth. Merapati is to this day a familiar name to the Land Dayaks of Sadong and near the Moara Rubin they still point out to the visitor a stone on which was carved by our hero, a curious token mark. But when Merapati learns the bad news from Batu Boiak he immediately sets out for home and paddles down at record pace. As he skims along the river, he is joined by the burong bakaka (kingfisher) who challenges our hero to a race, agreeing to the stipulation of Merapati that the loser must vomit his own blood. The result was that the bird lost, and even now the beak of the bakaka kingfisher is stained an indelible red as the penalty. On reaching the Batu boiak and hearing nothing of his women folk he sets sail and for many weeks searched the neighbouring coasts in vain. At last the golden dragon appears near the vessel and hails the distracted man who now learns that on the back of this dragon the vessel of his wife was carried to Brunei: and the dragon after paying various compliments to Merapati gives him one of his own golden scales—which by the way is still in the possession of one of the nobles of Brunei—and then disappears. So Merapati proceeds forthwith to Brunei and is lucky enough to meet the very same fisherman who first offered shelter to the ladies. At the happy reunion of our hero with his wife, we must leave them for a while.

After the sad mishap in Johore, the Sultan daily expected the return of his daughter and son-in-law, but when after waiting many months they did not appear, he sent out a large search party with strict orders never to return without the missing pair. This party which included several mentris and other men of rank searched the high seas and scoured the islands in vain so that at last they gave up the search and settled down in Sirhassen where their memory is still preserved by a goodly number of mentris and datus.

By chance the good fisherman of Brunei finds his way to Johore and is surprised to find the place in mourning and decay. On enquiry he is told that the old Sultan has died of sorrow on account of his lost daughter the Dayong Suri, and immediately



Drawing of a crudely carved stone found on Santubong mountain at an elevation of 300 feet.

The stone is about 4 feet high and 1 foot broad: its history quite unknown.

recognising the true state of affairs, he informs the new Sultan of the arrival of the long lost party in Brunei. On hearing this, the young prince hastily makes preparations for a long sea voyage and at an early date reaches Brunei. The mutual greetings were most affectionate and the townspeople joined in their congratulations. In due time the Johore prince marries his relative, Sri Bulan, and becomes Rajah of Brunei, his younger brother succeeding to the rank of Sultan of Johore. The worthy fisherman as a reward for his good services is made a chief of the up country. After this, Merapati with his wife, and Chipang his son, returns to Batu Boiak and remains here until the place has again acquired some degree of prosperity : then Chipang assumes the rank of Rajah at Batu Boiak, whilst our hero and Permaisuri go back to Tanjong Datu where they hope to spend their old age. It was here he died and on his death, his well worn tikar simbayang (prayer mat) floated out to sea and was picked up by Chipang at Batu Boiak : thence it was taken to Mungoh Landi, a hill in Upper Sarawak where shut up in a box, it was buried. Ever afterwards, Tanjong Datu became the resort of pilgrims where the good people went to pray and to bathe in the stream made holy by the famous Datu.

Chipang Merapati lived and ruled at Batu Boiak for many years, and we are told that his people included as well as Malays many immigrants from China and from India.

Here the story ends abruptly in a confused genealogy which shows the descent of several Malays of high rank in Sarawak from the illustrious hero of tradition. Such is the main outline of a story well known to Malays, and in the few scattered references to the negri Batu Boiak we have all that tradition can offer us respecting our subject. How much of this story has any foundation in real fact we are not prepared to say, but from the casual references to Santubong—which is only incidental to the story—we believe that this village has in past times been the home of influential Malay chiefs when probably Sarawak village was of very minor importance. Also if the statement concerning the Chinese and Indian residents of the village be not historical fact, it represents at any rate the

opinion of the Malay scribe who 40 years ago committed this story to writing.

We may mention that a variant of the Pegu incident is that the strangers stayed in Santubong for some time working as slaves.

Before dealing with the fauna and flora it will be well to mention the more obvious features of geographical and geological interest. As will be seen from the accompanying map, Santubong is one of many islands lying in the delta of the Sarawak river: these are mainly extensive mangrove swamps with occasionally a rocky prominence. The Northern half of the island is occupied entirely by the mountain mass: the Southern half is of mangrove swamp. It appears therefore that at no very distant geological period, an open sea stretched over the area now occupied by these swampy islands: in that sea the mountain of Santubong appeared as a solitary island whilst dotted about here and there were a few rocky islets.

The mountain is a narrow range, five miles long, of uptilted sandstone and shales which dip rather steeply towards the North East, and judging from the pebbles in the beds of the streams there are evidently occurrences of igneous rocks of granitic nature. At Sajinjang, just across the river, the uptilting factor is clearly observable: this hill consists of igneous rock, a porphyry, with an altered shale which is very hard and crystalline and in places where the stratification of the shale is in evidence it is very much contorted and dislocated often being thrown up on edge.

The Santubong sandstone contains iron pyrites in considerable quantities and there is a small occurrence of galena at the south end.

Traces of gold are also found in the soil at the base of the mountain.

In the following account of the animal and plant life of Santubong we shall make no attempt to give lists but will confine our remarks to a few points of special interest and to the relationship between the life on this island and that of the adjacent mountain, Matang, on the mainland.

FAUNA OF SANTUBONG.

In respect to mammals and birds the fauna of this island differs considerably from that of Matang. On the latter mountain, the morning air resounds with the cries of numerous gibbons (*Hylobates*) whereas not a single one is to be found on Santubong. So also Santubong differs in having no bears, no cats, no kijang (*Cervulus muntjac*), no porcupines, no partridges, pheasants, quails, parrots, nor any other ground birds. We do find, however, on this island the long nosed monkey (*Nasalis larvatus*), the brok and the kra (*Macacus nemestrinus* and *cynomolgus*), and several species of *Semnopithecus*, the wild pig (*sus barbatus*), the little plandok (*Tragulus* sp.), the flying lemur (*Galeopithecus volans*), and many species of squirrels: as a resort of the immigrant game birds, plover, snipe, curlew, and allies in their proper season—(from end of September to the beginning of March)—the neighbourhood of Buntal has some fame among sportsmen. The other birds are too numerous to mention and they do not appear to be of special interest apart from the curious fact just mentioned, that there is a general absence of birds whose flight is short and weak. This, coupled with the significant fact that the Bornean mammals on Santubong are such as can swim whilst those absent from the island and yet present on the adjacent mainland cannot or do not swim, is after all just what might have been *a priori* predicted after a study of the geography of the district.

There can be little doubt in fact but that Santubong has for a very long time been separated from the mainland by a barrier too formidable to permit the crossing of any but swimming mammals or strong flying birds: this barrier was at first open sea nearly ten miles wide, but with the simultaneous deposit of mud at the mouth of the Sarawak River and the gradual encroachment seawards of the vegetation of mangrove swamps, the open sea gave place almost entirely to a dismal swamp which to some terrestrial animals is as impassable as the sea. As we shall see, there are good reasons for believing that Santubong was at a still more remote period joined to Matang by high ground, and premising this, it becomes difficult

to satisfactorily explain the truly island nature of the fauna.

Perhaps during the period when the separation from the mainland took place, the animal life of the neighbourhood undertook a migration or was destroyed.

The only fossil remains recorded from the island is a molar tooth of a deer. The tooth is much larger than that of any specimen we have seen of the Bornean *Cervus equinus*. A very similar specimen along with a big bone of the same animal was found by Mr. R. Pawle in a cave at Bau.

The insect life of Santubong is not well known but it appears to be very like that of Matang. The mountain butterflies from these two localities are almost identical but it is not surprising to find that out of a total of more than a hundred species inhabiting this region, there are one or two whose distribution is strictly local. As with all mountain *Rhopalocera* in Sarawak, there is a preponderance of *Lycaenidae* (Blues) amongst which the genera *Cyaniris* and *Nacaduba* are well represented. The sandy plain stretching from the seashore is a favourite locality for a variety of the familiar Malayan *Hestia* whose gauzy white wings blotched with black, look too large and too fragile to allow of more than its customary fluttering flight: here too is to be found quite commonly a fine yellow *Troides* (*T. Amphrysus flavicollis* Druce), whilst on the top of the mountain one can rarely see a solitary specimen of the magnificent green creature known as the *Brookcana* butterfly (*Troides brookeanus*). The beetle fauna is very extensive and so far as we know it, is very like that of Matang. One species worthy of mention is a brown elater (*Hemiops crassa*) nearly an inch long. This beetle is found on the summit of Santubong, Matang, Lingga, and several other mountains in Sarawak, in some localities, Matang for instance, being very common. The same creature we are told exists on the mountain tops of the Peninsula. We have never seen a specimen of this from the lowlands. Of some special interest is a cockroach taken on Santubong. It is peculiar in being really handsome, and being unlike cockroaches found elsewhere it was given the

dignity of a new genus by Mr. Shelford who called it *Miroblatta petrophila*.

The invertebrate life of the sea shore could provide an endless source of interest in its myriads of tiny crabs which scuttle away at every sound, and in its boring Sipunculid worms whose fat bodies the natives deftly extract from their deep holes to use as bait for fish.

In the mangrove swamp stretching from the south end of the mountain is the usual distinctive fauna of such a habitat; the mud frequenting animals offer a special attraction as they are so extremely numerous. Foremost amongst these mud loving creatures are the crabs of bright and varied hue, the commonest (*Uca arcuata*) being a small creature not more than 1 or 2 inches long, resplendent in a bright blue livery. Other kinds are red or light brown. These pretty creatures besport themselves on the surface of the mud, myriads retiring at once to their holes when alarmed, as they retreat blocking up the entrance with the single huge claw. This innumerable army of crabs is continually scooping out holes, bringing up from below a semisolid mud which accumulates round the top of the holes and hardens in the sun. But their work is not enduring for with every rise of tide the mud is levelled up again. However in the case of one crustacean, the large mound-building decapod *Thalassina anomala*, called by Malays the Enguang, a very profound change in the land surface is thus effected. This animal bores long and wide tunnels which extend from the liquid mud, several feet below, up to the surface of the harder ground above: at the surface the material brought from below accumulates in such quantities as to form large mounds several feet in height. The result is that what was formerly soft mud becomes in a few days hard baked earth. This tunnelling moreover does not result in the formation of spacious hollows below ground as the liquid lower strata are replenished from the mud forming the banks of the streams. Thus it comes about that the land becomes gradually raised and this process continues until the thickness of the solid earth above becomes too great an obstacle for the enguang to penetrate. It would seem quite possible that the enguang when present in large

numbers can in a very few years raise the surface of the area in which they work through 6 or 7 feet; and no doubt this Crustacean has been a most important factor in the formation of dry land from mangrove swamp.

THE FLORA OF SANTUBONG.

It will be convenient to consider the flora of this island under several headings according to habitat, that of the mountain, of the sea shore and of the mangrove swamp.

The mountain flora. The forest of the slopes has all the appearance of a truly indigenous flora and is very like that of Mt. Matang: it is not in any sense what is known to botanists as an island flora. From the evidence of the trees it would seem most probable that the two mountains just mentioned have in past times been united by high land. For not only are the two floras so similar throughout but also there is in this flora a fair percentage of plants whose means of distribution are so limited that they are unable to cross the wide stretch of mangrove swamp and of sea which now separates the two mountains. Of such plants we may mention in particular the Ironwood tree, Bilian (*Eusideroxylon zwageri*). The fruits of the Bilian being large and heavy cannot be blown in the wind and as the epicarp is very hard and thick it is not eaten by animals (except porcupines): no doubt it is carried by water but streams cannot carry uphill nor is it probable that Bilian will grow in a swamp. Such being the case its wide distribution in this country argues for it a great antiquity and whenever it occurs on elevated ground there we may expect to find primary jungle. Again, there is on Santubong, as also on Matang, a number of different species of oak (*Quercus*) and of Engkabangs (*Shorea* and other dipterocarps): now the mere fact that a given genus of tree has a number of different species in one particular locality would lead us to believe that here the genus is endemic and when we remember also how imperfect is the mode of distribution of the heavier fruited dipterocarps and of the oaks we can only suppose that the forest on Santubong mountain was once quite continuous with that of Matang

and of Mt. Lingga in which localities are preserved the remains of the former immense tracts of primeval jungle which covered the land where now is nothing but mangrove swamp. The only alternative to this theory is that Santubong has received its flora by the agency of birds, mammals, wind and water from Matang. Now if the intervening land should lodge areas of dry ground which could act as stepping stones for the passage of trees between the two mountains such an alternative would be at any rate a possibility and on examination we do actually find in quite convenient situations many dry areas usually a few feet (sometimes as much as 25 ft.) elevated: these are known as Mattangs. The Mattang may cover an area of $\frac{1}{4}$ square mile or it may be much less: its substratum is of horizontally stratified sandstone and the soil is nothing but sand. Such a sandy island existing in a sea of swamp can be recognised from afar by the trees, which are quite different from those of the swamp: a very characteristic mattang tree is a *Casuarina* (*C. Sumatrana*) called Amun by Sea Dayaks. But, not only is the mattang flora very distinct from that of a mangrove swamp but also it lacks the essential elements of a mountain flora and the poverty of its soil is alone sufficient to prevent its functioning as a stepping stone between Santubong and Matang. Nor can we regard the mattangs as lingering remnants of the original high ground for it seems certain that they are quite recent in origin having been laid down as large sandbanks in the course of rivers. A sandbank of this type may have been formed out at sea or in the river-bed many miles from its mouth. Quite possibly the sandbanks of the Batang Lupar river where they are called Langains may some day become Mattangs.

It is evident therefore that at the present day there is nothing of the nature of intermediate land-bridges between the two localities and that in the case of a large number of species of plants an interchange is now impossible: the simplest explanation of the fact of general uniformity of flora is then the one we have just stated.

The flora of the slopes includes the following trees:—Oaks (Impilit of Sea Dayaks and Empenit of Malays) of at least

four species including the rare *Quercus reflexa*; a species of chestnut (*Castanopsis* sp.) called Berangan by Malays; a number of Dipterocarps chiefly Shoreas (Engkabang and Resaks of Malays) with also the bastard camphor tree (*Dryobalanops*.) the Kapur; a number of *Sapotaceae* including the gutta producing trees Bainyin, Rian, Samalam and the Niatos (genera *Palaium* and *Payena*); an ebony, Kayu Malam (*Diospyros* sp.); at least one Renggas tree (*Melonorrhoea* sp.); a wild *Nephelium* (*Mujon*) several species of *Saurauja*; a *Litsea* and allied genera (Medangs); a nutmeg (*Myristica* sp.) called Cumpang; two *Garcinias* known to Sea Dayaks as Sikup bunkang and Sumbat tebu; a *Eugenia* (Obah); two species of *Canarium* (Kambayau); a tall *Anonacea* (*Goniothalamus* sp.) bearing large yellow banana-like fruits on the trunk; a *Calophyllum* (entanggor); a *Hydnocarpus* known as Nyalin; an *Elaeocarpus*; a *Pithecolobium* near *Motleyana*; several *Ficus* and a host of other trees which in the absence of fruits or flowers could not be identified.

On the ground below at the base of the trees is a vegetation scanty for the most part, in which Dicotyledons are represented by several *Gesneraceae* including the beautiful blue flowered *Didymocarpi* (*D. bullatus* and *rufescens*) and one or two *Cyrtandras*: white flowered *Rubiaceae* of the genera *Argostemma*, *Hedyotis* and *Acranthera*: *Gomphia* and *Euthemis*; *Labisia pothoina*; *Anisophyllaea disticha*: *Sonerila* and other *Melastomaceae* and one or two species of *Piper*. Of Monocotyledons we find some Aroids (*Alocasia villeneuvii*, *Homalonema sagittaeifolia* etc.) a few orchids (*Hetaeria obliqua* etc.) one or two species of *Curculigo* (Lembah) some *Zingiberaceae* (*Hornstedtia* and *Globbas*); *Forrestia marginata*, some sedges, a grass, a few *Pandani* and the *Palmae*. The palms are not nearly so conspicuous a feature of the vegetation as they are at Matang: the *Eugeissona* of Matang is not to be found on Santubong and no other large palm takes its place. This order of plants is represented by a tall *Licuala* called Nunong and smaller species of the same genus: some rattans (*Daemonorops monticola* etc.); a handsome Caryota (*C. mitis*) known as Modor: *Plectocomia minor*, the Tibu of Sea Dayaks: the 'mountain Nibong' or 'Lemmakar' (*Oncosperma horrida*) and in the

low-lying swampy land at the foot of the mountain the common Nibong (*Oncosperma filamentosa*) whose spiny trunk is widely used for making posts. The only grass indigenous to this jungle and indeed to Borneo is the broad leaved *Leptaspis urceolata*: of *Cyperaceae* there are several, a common one being the *Scirpodendron costatum*.

Ferns are extremely numerous here both in species and individuals: a collection of one hundred species could easily be made at Santubong. The most graceful member of this family is the tree fern *Alsophila latebrosa* which in shady hollows attains a luxuriant growth, raising its crown of fronds to a height of 30 ft. Several other species of tree ferns are also found on the mountain. (*A. ramispina*, *A. comosa* and a *Cyathea*).

In this dense jungle where the struggle for light is keen, climbing plants are very common: here are a beautiful scarlet flowered *Bauhinia*, Hoyas, Tylophoras, the gutta producing Willughbeias and very frequently a large leaved *Gnetum*.

Parasitic on the tall trees are the *Loranthi* of which a species with large and handsome scarlet flowers is very common: also a small leaved mistletoe (*Viscum* sp.) is here to be found. As a root parasite reminding one of the British Orchid we occasionally meet with the purple flowered *Aeginetia intermedia* rising solitary from the ground.

High up on the slopes where the mountain is for long periods bathed in clouds, and where the air is cool, the surface of the trees and shrubs is completely enveloped save for the leaves in trailing epiphytal growth mainly of Hepatics: and here too in damp spots and on rocks trickling with moisture is to be found a rich growth of filmy ferns which are quite a marked feature of the vegetation. Conspicuous amongst these filmy ferns is *Trichomanes javanica*, *T. rigidum* and the handsome *T. foeniculaceum* and *T. pluma*. Altogether there are about a dozen species of filmy ferns here.

THE SUMMIT FLORA.

Quite a different habitat and a different vegetation is to be found on the summit. During the greater part of the day,

the plant life is completely exposed to the rays of a fierce tropical sun : at other times it is subjected to raging winds or torrential rains. In accordance with these conditions, the vegetation here is mostly of stunted trees and shrubs whose leaves are in many cases small and leathery : they are in fact typically Xerophytic.

On the top of this narrow mountain ridge we find an assembly of plants of wide distribution practically all of them being found on the summits of other mountains in Sarawak. The great majority of them have tiny seeds which no doubt are carried great distances by the wind—a fact which sufficiently explains the wide distribution of the plants in question. Here are several species of handsome rhododendrons including *R. malayanum*, *R. verticillatum* and *R. lacteum* a white flowered species occurring also on Kina Balu : several other *Ericaceae* including *Diplycosia consobrina* : amongst *Myrsineae* are a species of *Ardisia*, several species of *Embelia* and *Myrsine capitellata* distributed throughout the Archipelago and Ceylon : a white flowered *Alyxia* abounding in a sticky gutta : *Baeckia frutescens* found throughout the archipelago and South China, and a *Eugenia* apparently confined to mountain tops in Sarawak : a *Pygeum* which often appears on mountains in Malaya : a small leaved variety of *Eurya japonica* and a *Ternstroemia* also found at Matang : *Melastoma boryanum* also on the summit of Matang and a species of *Allomorphia* : *Cratoxylon microphyllum* taken on the mountains of the Peninsula : *Kurrimia paniculata* : *Leucopogon malayanum*. of wide distribution in Malaya : a magnificent pitcher plant, *Nepenthes Veitchi* in whose large pitchers a tree frog habitually lays her eggs : several orchids including the tiny *Corysanthes fornicata*, one or two *Erias* (*E. triloba* and *E. aurea*) *Coelogyne bilamellata*, *Bromheadia scirpoidea*, *Bulbophyllum odoratum* and a *Platyclinis* : the liliaceous *Dianella ensifolia* which reaches up to the Himalayas and stretches from Polynesia to Madagascar : a mountain *Casuarina* apparently *C. montana* var. *robustior* : the conifer *Podocarpus* (*Dacrydium*) *falciformis* : the ferns *Dipteris horsfieldi*, and *Matonia pectinata*. In damp places on the ground is a thick feltwork of *Sphagnum* moss and here

and there a *Selaginella*. It is a significant fact that in this heterogeneous but limited group of plants, a fair proportion are Australian types: the genera *Baeckia*, *Leucopogon*, *Dianella*, *Corysanthes* and *Podocarpus* are typically Australian.

The *Seashore Flora* is of the same kind as that which covers the shores of the whole Malayan region. Here are to be found plants of very wide distribution, some being cosmopolitan in the Tropics and a fair number being Australian types: unlike the slope flora we do not find in this assemblage of plants, whole groups of species which are closely related. The characteristic trees of the shore of this island are the Ru (*Casuarina equisetifolia*) the Baruk, (*Hibiscus tiliaceus*) the Ketapang (*Terminalia catappa*), the Engkarut (*Barringtonia speciosa*), the Arar jawi (*Ficus retusa*)? Berambang (*Canarium* sp.) and *Calophyllum inophyllum*.

Of smaller size are the Paku laut (*Cycas circinalis*), *Clerodendron inerme*, *Vitex negundo*, *Premna integrifolia*, *Scyphiphora hydrophyllacea*, *Allophylus cobbe*, *Scaevola koenigi*, *Dodonaea viscosa*, *Pandanus fascicularis* and the legumes *Indigofera*, *Deemodium umbellatum*, *Derris sinuata*, *D. uliginosa* and *Guilaudina bonducella*. Creeping on the sand is the beautiful convolvulus (*Ipomaea pes-caprae*) and one or two grasses and sedges—*Thuarea sarmentosa*, *Cyperus bulbosus*, *Eleusine aegyptiaca* and *Remirea maritima*.

Stretching from this littoral region to the foot of the mountain there is on the west side of the island a sandy plain of no great area. This is occupied by a rank growth of grasses and sedges and ornamented by a few common lowland shrubs such as the 'Simpor' (*Wormia suffruticosa*) with its showy yellow flowers, a *Clerodendron* conspicuous in its fruits, the ever flowering 'engkudok' a *Melastoma* popularly known as a *Rhododendron*, and the common red flowered shrub *Lantana camara*, a native of South America: its blackberry-like fruits are much eaten by monkeys which no doubt effects its wide distribution in this country.

Mangrove swamp. The southern half of the island is a mangrove swamp formed during the deposit of silt brought

down by the Sarawak river. The flora of this swamp presents no features of special interest and as such swamps have been so often described we shall only give it passing mention. In the northern half of the island on the west side there is a small swamp which well illustrates the mode of formation of such muddy areas. Into it there flows a large stream which drains the western slopes of the mountain and thus brings down disintegrated rock and earth to be eventually deposited near the mouth of the stream. The extension seawards of such a mudflat is limited by the violence of the waves and in the small swamps in question we find that in spite of the continual influx of fresh earthy material from the mountain, the swamp is confined to the interior of a small sheltered bay. In every part of the swamp the mud is beset with numerous close-set uprising shoots and aerating roots of the trees growing therein and at the sea margin of the swamp these short rigid shoots form a dense fringe round which the mud collects to form a bank which can resist the onslaughts of the waves. The tree which leads the way in this marine encroachment is the 'Pirapat' (*Sonneratia alba*)—often accompanied by the *Aegiceras majus*—and when once this has obtained a firm hold, other swamp trees appear. In the small swamp we are considering the 'Pirapat' and the *Aegiceras* are most abundant but in addition we have also 'Bako' (*Phizophora mucronata* and *R. conjugata*), 'Tengah' (*Ceriops candolleana*), 'Putut' (*Bruguiera* sp), 'Apiapi' (*Avicennia officinalis*) and 'Taruntum' (*Lumnitzera coccinea*).

In the southern half of the island the characteristic trees of the mangrove vegetation are the Bakos (Bako jangkar is *Rhizophora conjugata* and Bako gaiong is *rhizophora mucronata*), the Putut, the 'Aleh aleh' (*Kandelia rheedii*), the Api api, the 'Nireh' (*Carapa moluccana*) and the Nipah palm which however only reaches a strong development in parts where the mud is relatively firm and where the tidal forces are not too strenuous.

The geographical relations of a mangrove swamp situated in the delta of a tidal river are continually changing. Not only are new channels being formed and old ones being silted